



U.S. DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Petition for Exemption from the

Federal Motor Vehicle Theft Prevention Standard;

Jaguar Land Rover North America LLC

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Grant of petition for exemption.

SUMMARY: This document grants in full the Jaguar Land Rover North America LLC's, (Jaguar Land Rover) petition for exemption of the Range Rover Velar vehicle line in accordance with Exemption from Vehicle Theft Prevention Standard. This petition is granted because the agency has determined that the antitheft device to be placed on the line as standard equipment is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Federal Motor Vehicle Theft Prevention Standard (Theft Prevention Standard).

DATES: The exemption granted by this notice is effective beginning with 2019 model year (MY).

FOR FURTHER INFORMATION CONTACT: Ms. Carlita Ballard, Office of International Policy, Fuel Economy and Consumer Programs, NHTSA, West Building, W43-439, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590. Ms. Ballard's phone number is 202-366-5222. Her fax number is 202-493-2990.

SUPPLEMENTARY INFORMATION: In a petition dated September 29, 2017, Jaguar Land Rover requested an exemption from the parts-marking requirements of the Theft Prevention Standard (49 CFR part 541) for the MY 2019 Range Rover Velar vehicle line. The petition requested an exemption from parts-marking pursuant to 49 CFR part 543, *Exemption from Vehicle Theft Prevention Standard*, based on the installation of an antitheft device as standard equipment for an entire vehicle line.

Under §543.5(a), a manufacturer may petition NHTSA to grant an exemption for one vehicle line per model year. In its petition, Jaguar Land Rover provided a detailed description and diagram of the identity, design, and location of the components of the antitheft device for the Velar vehicle line. Jaguar Land Rover stated that its Range Rover Velar vehicle line will be equipped with a passive, transponder-based, electronic engine immobilizer device as standard equipment beginning with the 2019 model year. Key components of its antitheft device will include a power train control module (PCM), instrument cluster, body control module (BCM), remote frequency receiver (RFR), Immobilizer Antenna Unit (IAU), Remote Frequency Actuator (RFA), Security Horn and Vehicle Horn, Smart Key, Door Zone Modules (Passenger and Driver) (DMZs) and a Security Warning LED. Jaguar Land Rover stated that its antitheft device will also include a vehicle security system that includes an audible and visual perimeter alarm system as standard equipment on the entire vehicle line. Jaguar Land Rover further stated that its perimeter alarm system can be armed with its Smart Key or programmed to be passively armed. The horn will sound and the vehicle's exterior lights will flash if unauthorized entry is attempted by opening the hood, doors or luggage compartment.

Jaguar Land Rover's submission is considered a complete petition as required by 49 CFR 543.7, in that it meets the general requirements contained in §543.5 and the specific content requirements of §543.6.

In addressing the specific content requirements of 543.6, Jaguar Land Rover provided information on the reliability and durability of its proposed device. To ensure reliability and durability of the device, Jaguar Land Rover conducted tests based on its own specified standards. Jaguar Land Rover provided a detailed list of the tests conducted (i.e., temperature and humidity cycling, high and low temperature cycling, mechanical shock, random vibration, thermal stress/shock tests, material resistance tests, dry heat, dust and fluid ingress tests). Jaguar Land Rover stated that its device is reliable and durable because it complied with specified requirements for each test. Additionally, Jaguar Land Rover stated that its key recognition sequence includes over a billion code combinations with encrypted data that are secure against duplication. Jaguar Land Rover further stated that the coded data transfer between modules use a unique secure identifier, and a secure public algorithm. Jaguar Land Rover also stated that since its Velar vehicle line will utilize a push button vehicle ignition, it does not have a conventional mechanical key barrel, and therefore, a thief will have no means of forcibly bypassing the key-locking system.

Jaguar Land Rover stated that its immobilizer device is automatically activated when the Smart Key is removed from the vehicle. Jaguar Land Rover also stated that its Smart key is programmed and synchronized to each vehicle through an identification key code and a secret, randomly-generated code

unique to each vehicle.

Jaguar Land Rover stated that there are three methods of antitheft device deactivation and engine starting. Method one consists of automatic detection of the Smart Key via a remote frequency challenge response sequence. Specifically, when the driver approaches the vehicle and pulls the driver's door handle following authentication of the correct Smart Key, the doors will unlock. When the ignition start button is pressed, the device searches to find and authenticate the Smart Key within the vehicle interior. If successful, this information is passed to the BCM via the Remote Function Actuator by coded data transfer. The BCM, will pass the "valid key" status to the instrument cluster, via a coded data transfer and then send the key valid message code to the PCM initiating a coded data transfer and engine authorization to start. Method two consists of unlocking the vehicle with the Smart Key unlock button. As the driver approaches the vehicle, the Smart Key unlock button is pressed and the doors will unlock. Once the driver presses the ignition start button, the operation process is the same as method one. Method three involves using the emergency key blade. If the Smart Key has a discharged battery or is damaged, there is an emergency key blade that can be removed from the Smart Key and used to unlock the doors. When the ignition start button is pressed, the device searches to find and authenticate the Smart Key within the vehicle interior. If successful, the Smart Key needs to be docked. Once the Smart Key is docked/placed in the correct position, and the ignition start button is pressed again, the BCM and Smart key enter a coded data exchange via the Immobilizer Antenna Unit. The BCM then passes the valid key status to the instrument cluster, via the Immobilizer Antenna Unit and

sends the key valid message to the PCM which initiates a coded data transfer. If successful, the engine starting is authorized.

Jaguar Land Rover stated that its immobilizer is substantially similar to the antitheft device installed on the Jaguar F-Pace, Jaguar XJ, Jaguar F-Type, Jaguar XF, Jaguar XE, Land Rover Discovery Sport and the Land Rover Range Rover Evoque. Jaguar Land Rover stated that based on MY 2014 theft information published by NHTSA, the Jaguar Land Rover vehicles equipped with immobilizers and perimeter alarm systems had a combined theft rate of 0.31 per thousand vehicles, which is below NHTSA's overall theft rate of 1.15 thefts per thousand. The agency notes the average theft rate for the Jaguar XJ, XF, F-Type and the Land Rover Range Rover Evoque vehicle lines using an average of three model years' data (2012 - 2014) are 0.6791, 0.6277, 0.7402 and 0.5418, respectively. Jaguar Land Rover stated the low theft rates demonstrate the effectiveness of the immobilizer device.

Based on the supporting evidence submitted by Jaguar Land Rover on the device, the agency has determined that the antitheft device for the Range Rover Velar vehicle line is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR 541). The agency concludes that the device will provide the five types of performance listed in §543.6(a)(3): promoting activation; attract attention to the efforts of an unauthorized person to enter or move a vehicle by means other than a key; preventing defeat or circumvention of the device by unauthorized persons; preventing operation of the vehicle by unauthorized entrants; and ensuring

the reliability and durability of the device.

Pursuant to 49 U.S.C. 33106 and 49 CFR 543.7 (b), the agency grants a petition for exemption from the parts-marking requirements of part 541 either in whole or in part, if it determines that, based upon substantial evidence, the standard equipment antitheft device is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of part 541. The agency finds that Jaguar Land Rover has provided adequate reasons for its belief that the antitheft device for the Range Rover Velar vehicle line is likely to be as effective in reducing and deterring motor vehicle theft as compliance with the parts-marking requirements of the Theft Prevention Standard (49 CFR part 541). This conclusion is based on the information Jaguar Land Rover provided about its device.

For the foregoing reasons, the agency hereby grants in full Jaguar Land Rover's petition for exemption for the Range Rover Velar vehicle line from the parts-marking requirements of 49 CFR Part 541. The agency notes that 49 CFR part 541, Appendix A-1, identifies those lines that are exempted from the Theft Prevention Standard for a given model year. 49 CFR part 543.7(f) contains publication requirements incident to the disposition of all part 543 petitions. Advanced listing, including the release of future product nameplates, the beginning model year for which the petition is granted and a general description of the antitheft device is necessary in order to notify law enforcement agencies of new vehicle lines exempted from the parts-marking requirements of the Theft Prevention Standard.

If Jaguar Land Rover decides not to use the exemption for this line, it must formally notify the agency. If such a decision is made, the line must be fully marked according to the requirements under

49 CFR parts 541.5 and 541.6 (marking of major component parts and replacement parts).

NHTSA notes that if Jaguar Land Rover wishes in the future to modify the device on which this exemption is based, the company may have to submit a petition to modify the exemption. Part 543.7(d) states that a part 543 exemption applies only to vehicles that belong to a line exempted under this part and equipped with the antitheft device on which the line's exemption is based. Further, part 543.9(c)(2) provides for the submission of petitions "to modify an exemption to permit the use of an antitheft device similar to but differing from the one specified in that exemption."

The agency seeks to minimize the administrative burden that part 543.9(c)(2) could place on exempted vehicle manufacturers and itself. The agency did not intend in drafting part 543 to require the submission of a modification petition for every change to the components or design of an antitheft device. The significance of many such changes could be *de minimis*. Therefore, NHTSA suggests that if the manufacturer contemplates making any changes, the effects of which might be characterized as *de minimis*, it should consult the agency before preparing and submitting a petition to modify.

Issued in Washington, D.C., under authority delegated in 49 CFR part 1.95.

Raymond R. Posten,
Associate Administrator for Rulemaking.

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